

# Mini-incision surgery for total knee replacement

**Understanding NICE guidance –  
information for people considering the  
procedure, and for the public**

March 2005



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**Mini-incision surgery for total knee replacement**  
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Copies of this booklet can be ordered from the NHS Response Line; telephone 0870 1555 455 and quote reference number N0846.

A version in Welsh and English is also available, reference number N0847. Mae fersiwn yn Gymraeg ac yn Saesneg ar gael hefyd, rhif cyfeirnod N0847. The NICE interventional procedures guidance on which this information is based is available from the NICE website ([www.nice.org.uk/IPG117guidance](http://www.nice.org.uk/IPG117guidance)). Copies can also be obtained from the NHS Response Line, reference number N0845.

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## About this information

This information describes the guidance that the National Institute for Clinical Excellence (NICE) has issued to the NHS on a procedure called mini-incision surgery for total knee replacement. It is not a complete description of what is involved in the procedure – the patient’s healthcare team should describe it in detail.

NICE has looked at whether mini-incision surgery for total knee replacement is safe enough and works well enough for it to be used routinely.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of mini-incision surgery and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE’s work on ‘interventional procedures’ (see ‘Further information’ on page 10).

## About mini-incision surgery for total knee replacement

Mini-incision surgery for total knee replacement is a possible alternative to the standard total knee replacement operation. Total knee replacement is an option for people with a worn, damaged knee joint (usually this happens because of osteoarthritis). Medicines and physiotherapy are used first, but if they don't help or the effect wears off, the person is usually offered a knee replacement operation. This involves removing the damaged surfaces of the bones in the knee joint, and putting in an artificial joint.

The standard knee replacement operation involves opening up the knee area so that the surgeon can remove the damaged bone and put the artificial joint in place. The new type of surgery that NICE has looked at involves making a smaller cut or incision over the knee. The aim of using a smaller incision is to reduce the amount of surrounding tissue that gets damaged during the surgery. The surgeon uses specially designed equipment to push tissue aside rather than cut through it. This should mean that the patient recovers more quickly. Also, the standard operation involves turning the knee cap over so the surgeon can get to the joint. With the new surgery, the surgeon can move the knee cap to one side.

## How well it works

### What the studies said

In one study, 50 people had the new mini-incision surgery and 20 people had the standard total knee replacement operation. Six weeks after the surgery, people who'd had the newer surgery were able to move their knee slightly more than the people who'd had the standard operation, but the difference was only small.

A study that followed what happened in 166 people who had the mini-incision procedure found that nearly all of them were satisfied with the results after at least 2 years. The results were scored 'good' or 'excellent' for 195 knees out of 216 (some people in the study had both knees replaced, which is why the number of knees is higher than the number of people in the study).

### What the experts said

The experts said that it wasn't completely clear how long the joints put in using this procedure would work. In contrast, there was a lot of information available on the long-term results of the standard operation.

## Risks and possible problems

### What the studies said

Not many studies have published results on the safety of mini-incision surgery. In one study of 66 people, three had a problem caused by the surgery. One person had a blood clot on the lungs (this is called a pulmonary embolism), one person had a temporary paralysis of the nerve running to the lower leg, and a third person had a heart attack during surgery.

In a study of 20 people who had the surgery, two people had a painful grating sensation as the two bones in the new knee joint rubbed together. One person had bleeding into the space in the knee joint.

In a third study, further surgery was needed for five out of 216 knees because the first operation hadn't been successful.

### What the experts said

The experts said there was a possibility that the artificial knee joint might not be put into the correct position.

## What has NICE decided?

NICE has decided that, if a doctor wants to carry out mini-incision surgery for total knee replacement, he or she should make sure that the patient understands what is involved and that there are still uncertainties over the safety of the procedure and how well it works. There should be special arrangements in place so that the patient only agrees (consents) to the procedure after this discussion has taken place.

There should also be special arrangements for monitoring what happens when a person has this new procedure. NICE is asking doctors to send information about every patient who has it and what happens to them afterwards to a central store of information called the National Joint Registry ([www.njrcentre.org.uk](http://www.njrcentre.org.uk)). This will mean that the safety of the procedure and how well it works can be checked over a long period of time. NICE has also encouraged doctors to ask patients to join clinical trials that are looking at mini-incision surgery for total knee replacement. NICE may look at this procedure again if new information is published.

Finally, NICE has said that it's important for surgeons to be trained to do mini-incision surgery for total knee replacement if they want to offer it to patients.

## Other comments from NICE

Methods of using computers to help guide the surgeon during mini-incision surgery are being developed.

## What the decision means for you

Your doctor may have offered you mini-incision surgery for total knee replacement. NICE has considered this procedure because it is relatively new. NICE has decided that there are uncertainties about the benefits and risks of mini-incision surgery for total knee replacement which you need to understand before you agree to it. Your doctor should discuss the benefits and risks with you. Some of these may be described above.

NICE has also decided that more information is needed about mini-incision surgery for total knee replacement. So NICE has recommended that some details should be collected about every patient who has this procedure. These details will be held confidentially and will not include patients' names. The information will be used only to see how safe the procedure is and how well it works. If you decide to have mini-incision surgery for total knee replacement, you will be asked to agree to your details being entered into an electronic database for this purpose. A clinician looking after you will fully explain the purpose of collecting the data and what details

will be held. You will be asked to sign a consent form. If you do not agree to the details being entered into an electronic database, you will still be allowed to have the procedure.

## Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

You can visit the NICE website ([www.nice.org.uk](http://www.nice.org.uk)) for further information about the National Institute for Clinical Excellence and the Interventional Procedures Programme. A copy of the full guidance on mini-incision surgery for total knee replacement is on the NICE website ([www.nice.org.uk/IPG117guidance](http://www.nice.org.uk/IPG117guidance)), or you can order a copy from the website or by telephoning the NHS Response Line on 0870 1555 455 and quoting reference number N0845. The evidence that NICE considered in developing this guidance is also available from the NICE website.

If you want more information on osteoarthritis, a good starting point is NHS Direct, telephone 0845 4647, or NHS Direct Online ([www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)).

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